UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/786,843	02/25/2004	Jose German Rivera	200312292-1	2936

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EXAMINER
WEI, ZHENG

ART UNIT	PAPER NUMBER
2192	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/06/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

Office Action Summary	Application No.	Applicant(s)
	10/786,843	RIVERA ET AL.
	Examiner	Art Unit	
	Zheng Wei	2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>25 February 2004</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-43</u> is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-43</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>25 February 2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All   b)☐ Some *   c)☐ None of:

       1.☐ Certified copies of the priority documents have been received.

       2.☐ Certified copies of the priority documents have been received in Application No. _____.

       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
     Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   This office action is in response to the application filed on 02/25/2004.

2.   Claims 1-43 are pending and have been examined.

Oath/Declaration

3.   The Office acknowledges receipt of a properly signed oath/declaration filed on

February 25, 2004.

Priority

4.   The priority date considered for this application is February 25, 2004.

Drawings

5.   The drawings filed on February 25, 2004 are accepted by the Examiner.

Claim Rejections - 35 USC § 112

6.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly
claiming the subject matter which the applicant regards as his invention.

7.   Claims 2 and 21-30 are rejected under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject

matter which applicant regards as the invention.

Claim 2: Claim 2 recites the limitation "the determined type" in line 4. There is

insufficient antecedent basis for this limitation in the claim.

Claims 21-30: The term **"minimally causes the processor"** in claims 21-30 is a

relative term which renders the claim indefinite. The term "minimally causes the

processor" is not defined by the claim, the specification does not provide a

standard for ascertaining the requisite degree, and one of ordinary skill in the art

would not be reasonably apprised of the scope of the invention. For the purpose

of compact prosecution, the Examiner treats the term as –**causes the**

processor--.

Claim Rejections - 35 USC § 101

8.   35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
conditions and requirements of this title.

9.   Claims 11-20 are rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter.

Claims 11: Claim 11claims an apparatus, which comprises assertion receive and

assertion recorder. However, both of these components are software

components implemented by instruction sequences (see for example,

specification, p.20, paragraph [0037], "instruction sequences that implement

functional modules..."). Such claimed software module/programs are software

program listings per se and they do not define any structural and functional

interrelationships between the computer program and other claimed elements of

a computer, which permit the computer program's functionality to be realized.

Therefore, claim 11 is not statutory. See MPEP 2106.01(I)

Claims 12-20: Claims 12-20 are dependent claims of claim 11. These claims all

fail to remedy the 35 USC 101 nonstatutory problem of claim 1.

--*These rejections can be overcome by adding computer hardware components*

e.g., memory, processor..., into the claims that permit the computer program's

functionality to be realized.

Claim Rejections - 35 USC § 102

10.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11.   Claims 1-5, 7-15, 17-20 and 41-43are rejected under 35 U.S.C. 102(b) as being

anticipated by <u>Wiliams</u> (Mickey Williams, Microsoft® Visual C#™ .NET)

Claim 1:

<u>Wiliams</u> discloses a method for monitoring (debugging and tracing) computer

software comprising:

- receiving an assertion from an executing process (see for example, p.11, line

    3, "When a DefaultTraceListerner object detects that the Assert method has

    been called from a server process");

- recording the assertion when it is violated (see for example, p.10-11, figure 9-

    3 "Dialog box generated by trace and debug output with the Assert method"

    and related text, also see p.10, section "Asserting That Expressions Are

    True", lines 15-16, The Assert method is used to display an error message

    when a condition that's expected to evaluates as true evaluates as false.");

    and

- allowing the executing process to continue execution (see for example, p.10-

    11, figure 9-3 "Dialog box generated by trace and debug output with the

    Assert method" and button labeled as "Ignore").

Claim 2:

<u>Wiliams</u> further discloses the method of claim 1 wherein receiving an assertion

comprises:

- receiving an assertion request (see for example, p.11, line 3, "When a

  DefaultTraceListerner object detects that the Assert method has been called

  from a server process");

- recognizing a type (enabled or disabled) for the assertion request (see for

  example, p.13, section "Using the BooleanSwitch Class", lines 20-21, "The

  BooleanSwitch class is used to created simple Switch objects that can be

  either enable or disabled", also see p.22-24, example code); and ·

- accepting the assertion request when the determined type is enabled (see for

  example, p.25-26, "The switch can be used to control tracing or debugging

  output using code such as this: Trace.WriteLineIF(theSwitch.Enable, "An

  overdraft occurred").

Claim 3:

Wiliams also discloses the method of claim 1 wherein receiving an assertion

comprises:

- receiving an assertion request (see for example, p.11, line 3, "When a

  DefaultTraceListerner object detects that the Assert method has been called

  from a server process");

- determining a component that sourced the assertion request (see for

  example, p.13, section "Using the BooleanSwitch Class", lines 20-24,

  example of a BooleanSwitch object with a display name of *mySwitch*:

  BooleanSwitch theSwitch

> = *new BooleanSwitch ("mySwitch", "Application tracing");*
>
> *TheSwitch.Enable = true);* and

- accepting the assertion request when the determined component has

  assertion requests enabled (see for example, p.13, lines 25-27, "This code

  also enables the **mySwitch** object programmatically, The switch can be used

  to control tracing or debugging output code such as this:

  Trace.WirteLineIf (theSwitch.Enabled, "An overdraft occurred")).

Claim 4:

Wiliams further discloses the method of claim 1 wherein recording the assertion

comprises recording a datum that includes at least one of: type of assertion,

sequence number of the assertion, time at which the assertion occurred,

identification of processor that produced the assertion, identification of process

that produced the assertion, identification of the thread that produced the

assertion, text of the assertion, stack trace, source line containing the assertion,

and file name of the source containing the code that generated the assertion (

see for example, p.10-11, figure 9-3 "Dialog box generated by trace and debug

output with the Assert method" and related text, also see p.10, lines 1-2, "As you

can see, this dialog box includes call stack information when available. Where

debug symbols are available, the stack trace includes file name and line number

information.")

Claim 5:

Wiliams also discloses the method of claim 1 wherein recording the assertion

comprises writing information regarding the assertion violation to a computer

readable medium (see for example, p.9, lines 13-15, "The .NET Framework

includes classes to control trace and debug output message and to write output

message to files, streams, and event log.").

Claim 7:

Wiliams further discloses the method of claim 1 further comprising:

- accepting a command from at least one of a control console and a network

  connection (see for example.p.203, Figure 9-1. "The build property page for a

  project, on which new symbols are defined", "TraceDemo Property Pages",

  "Configuration Properties", also see p.13, example configuration file:

  SwitchText.exe.config); and

- updating an enable condition for an assertion class according to the

  command (see for example, p.13, line 41-p.14, line 2, "Switches are

  controlled by adding XML element nodes inside the switches element,

  Multiple switch objects can be configured through a configuration file by

  adding additional elements to the switches node." , "BooleanSwitch objects

are disabled by default and are enabled if they're assigned a nonzero value in

a configuration file.")

Claim 8:

Wiliams further discloses the method of claim 1 further comprising generating an

error report according to the recorded assertion (see for example, p.11, lines 7-

17. "The Assert method has three versions", "The most basic version simply

accepts an expression that triggers an assertion failure message", "The second

version of Assert accepts a second parameter that serves as a short error

message describing the assertion violation", "The third version of Assert accepts

a third parameter that includes detailed information about the assertion violation")

Claim 9:

Wiliams also disclose the method of claim 8 further comprising dispatching the

error report to a real-time assertion monitor (Visual Studio output window) (see

for example, p.11, lines 5-6, "Instead, it writes the output message to the Visual

Studio Output window and any other debuggers currently accepting output from

the Microsoft Win32 OutputDebugString function.").

Claim 10:

Wiliams further discloses the method of claim 8 wherein generating an error

report comprises: retrieving an assertion violation parameter including at least

one of: type of assertion, sequence number of the assertion, time at which the

assertion occurred, identification of processor that produced the assertion,

identification of process that produced the assertion, identification of the thread

that produced the assertion, text of the assertion, stack trace, source line

containing the assertion, and file name of the source containing the code that

generated the assertion; and generating a report file comprising page description

statements according to the assertion parameter (see for example, p.10-11,

figure 9-3 "Dialog box generated by trace and debug output with the Assert

method" and related text, also see p.10, lines 1-2, "As you can see, this dialog

box includes call stack information when available. Where debug symbols are

available, the stack trace includes file name and line number information.")

Claims 11-15 and 17-20:

Claims 11-15 and 17-20 are apparatus version of the claimed method addressed

in claims 1-5 and 7-10 above for monitoring computer software, wherein such an

apparatus/computer system is deemed to be inherent to produce, such as Figure

9-3 dialog box and word above. Therefore, these claims are also anticipated by

Wiliams.

Claim 41:

Wiliams discloses an apparatus (Microsoft® Visual Studio C#™.NET) for

monitoring computer software comprising:

- means for detecting an assertion from an executing process(see for example, p.11, line 3, "When a DefaultTraceListerner object detects that the Assert method has been called from a server process");

- means for recording information pertaining to the assertion when it is violated (see for example, p.10-11, figure 9-3 "Dialog box generated by trace and debug output with the Assert method" and related text, also see p.10, section "Asserting That Expressions Are True", lines 15-16, The Assert method is used to display an error message when a condition that's expected to evaluates as true evaluates as false."); and

- means for allowing the executing process to continue execution (see for example, p.10-11, figure 9-3 "Dialog box generated by trace and debug output with the Assert method" and button labeled as "Ignore").

Claim 42:

Wiliams further discloses the apparatus of claim 41 wherein means for detecting an assertion comprises:

- means for ascertaining the type of an assertion request (see for example, p.13, section "Using the BooleanSwitch Class", lines 20-21, "The BooleanSwitch class is used to created simple Switch objects that can be either enable or disabled", also see p.22-24, example code); and

- means for ignoring the assertion request when the ascertained type is not enabled (see for example, p.25-26, "The switch can be used to control tracing

or debugging output using code such as this:

Trace.WriteLineIF(theSwitch.Enable, "An overdraft occurred"), also see p.14,

lines 1-2. "BooleanSwitch objects are disabled by default and are enabled if

they're assigned a nonzero value in a configuration file.").

Claim 43:

<u>Wiliams</u> also discloses the apparatus of claim 41 wherein means for detecting an

assertion comprises:

- means for ascertaining a component that sourced an assertion request (see

    for example, p.13, section "Using the BooleanSwitch Class", lines 20-24,

    example of a BooleanSwitch object with a display name of *mySwitch*:

    *BooleanSwitch **theSwitch***

            = new BooleanSwitch ("mySwitch", "Application tracing");

    TheSwitch.Enable = true); and

- means for ignoring the assertion request when the ascertained component

    does not have assertions enabled (see for example, lines 25-27, "This code

    also enables the *mySwitch* object programmatically, The switch can be used

    to control tracing or debugging output code such as this:

    Trace.WirteLineIf (theSwitch.Enabled, "An overdraft occurred")).

Claim Rejections - 35 USC § 103

12.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

13.   Claims 6, 16, 26 and 36 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Wiliams (Mickey Williams, Microsoft® Visual C#™ .NET) in

view of Cantrill (Bryan M, Cantrill, US 7,146,473)

Claim 6:

Wiliams discloses the method of claim 1 wherein recording the assertion

comprises writing information regarding the assertion violation to output device,

but does not explicitly disclose the output is a circular buffer. However, Cantrill in

the same analogous art of a mechanism for ring buffering (circular buffer) in an

arbitrary-action tracing framework (see for example, col.7, lines 15-17,

"Embodiments of the invention provide a means for implementing a ring buffer

scheme in arbitrary-action tracing frameworks which have variable length

records."). Therefore, it would have been obvious to one having ordinary skill in

the art at the time the invention was made to use circular buffer to store the

output message. One would have been motivated to do so to keep the most

recent recorded message in the fix sized buffer as suggested by Cantrill (col.1,

lines 28-30, "one may which only want to keep the most recent data. To allow for this, tracing frameworks have historically implemented ring buffer.")

Claims 16, 26 and 36:

Claims 16, 26 and 36 are different product versions of method claim 6. It is well known in the computer that these products can be used to practice or perform the method discussed in claim 6 above. Therefore these claims are also unpatentable over Wiliams in view the teachings of Cantrill.

14.   Claims 21-25, 27-35 and 37-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiliams (Mickey Williams, Microsoft® Visual C#™ .NET)

Claims 21-25 and 27-30:

Claims 21-25 and 27-30 claim a computer software monitoring system comprising: memory capable of storing instructions; processor capable of executing instructions stored in the memory; and software monitor instruction sequence that, when executed by the processor, minimally causes the processor to: receive an assertion from an executing process, record the assertion, and allow the executing process to continue execution. This is a product version of method claims discussed in claims 1-5 and 7-10 above respectively. It is well known in the computer art that the method can be practiced by the computer system to perform the same functionality. Therefore, these claims are also unpatentable over Wiliams.

Claims 31-35 and 37-40:

Claims 31-35 and 37-40 claim a computer-readable medium having computer-executable instructions for performing a method for monitoring computer software. This is another product version of method claims discussed in claims 1-5 and 7-10 above respectively. It is well known in the computer art that the method can be stored and practiced in the computer-readable medium. Therefore, these claims are also unpatentable over <u>Wiliams.</u>
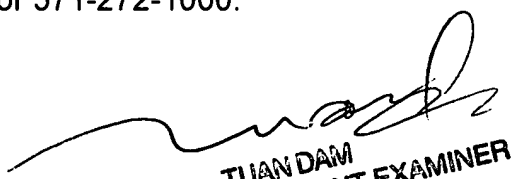
Conclusion

15.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Blumenthal et al., (US 2005/0055605) discloses a method and apparatus to **activating assertions and breakpoints**;

- Blumenthal et al., (US 2005/0114839 A1) discloses a technique for test flow control including using method for **calling test assertion methods** for checking the correctness of production code.

16.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zheng Wei whose telephone number is (571) 270-1059. The examiner can normally be reached on Monday-Thursday 8:00-15:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is 571- 272-1000.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ZW

TUAN DAM
SUPERVISORY PATENT EXAMINER